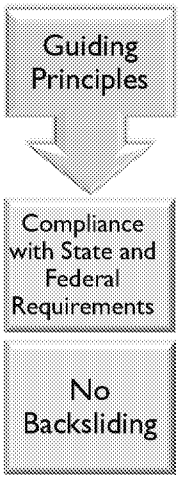
EPA REGION IX MEETING

MARCH 14, 2019
EPA REGION 9
SAN FRANCISCO, CA 94105

Guiding Principles



- For the RECLAIM transition, any changes or revisions to NSR requirements in RECLAIM and/or Regulation XIII must comply with State and Federal requirements
- Statutes for Prevention of Backsliding
  - Federal Clean Air Act
    - Section 110(l)
  - California State Health and Safety Code
    - SB 288 – "Protect California Act of 2003"

Areas of General Agreement

- New and modified sources in RECLAIM must comply with Rule 2005 – New Source Review for RECLAIM
- New and modified sources outside of RECLAIM must comply with Regulation XIII – New Source Review
  - BACT is required for all new and for modified sources with an emission increase
  - Regulation XIII will apply to the first modification post-RECLAIM
- The transition of a facility from RECLAIM to command-and-control is not a NSR event

Summary Three NSR Issues

Key Issue #1 For new sources that are permitted in RECLAIM, what are the offset obligations as facilities transition out of RECLAIM?

OFFSETTING REQUIREMENTS

Key Issue #2 When and how pre-modification potential to emit (PTE) is calculated to determine if an emission increase occurs that triggers NSR after facilities transition out of RECLAIM?

PERMITTING

Key Issue #3 How will the SCAQMD ensure that sufficient offsets are available to satisfy NSR requirements?

OFFSET AVAILABILITY

NSR APPLICABILITY TEST POST RECLAIM

NSR – Key Issues

Key Issue #1
For new sources that are permitted in RECLAIM, what are the offset obligations as facilities transition out of RECLAIM?

OFFSETTING REQUIREMENTS

Key Issue #2
When and how pre-modification potential to emit (PTE) is calculated to determine if an emission increase occurs that triggers NSR after facilities transition out of RECLAIM?

PERMITTING

Key Issue #3
How will the SCAQMD ensure that sufficient offsets are available to satisfy NSR requirements?

OFFSET AVAILABILITY

Regulation XIII NSR Applicability

- Regulation XIII will apply to the first modification post-RECLAIM
- PTE is applied to an individual piece of equipment
- Regulation XIII applies to all modifications and new construction
- Regulation XIII requirement trigger test: Does modification result in an emission increase?
- Emission increase determined by comparing a source's PTE pre- and post- modification
- Under Regulation XIII an emission increase would occur if:

Post-modification PTE > Pre-modification PTE

Federal NSR

- Federal NSR provisions use a different methodology to determine NSR applicability
  - Actual-to-Potential
    - Prior to EPA's NSR Reform in December 2002, NSR applicability for new and modified sources was based on an actual-to-potential test (except for electric steam generating units)
  - Actual-to-Future Actual
    - EPA's NSR Reform adopted a new NSR applicability test for modifications of existing sources, which compares past actual emissions to future actual emissions after the change
    - Notwithstanding NSR reform, existing sources still have the option to use the actual-to-potential test
    - Demand growth and increased utilization exclusions are allowed: limited to emissions that could have been accommodated before the change

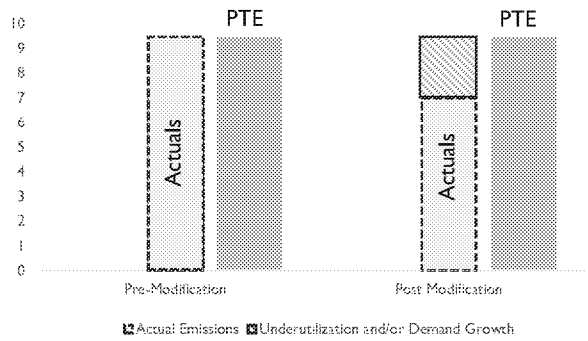
Actual-to-Potential Test

- For new sources, the NSR applicability test is the same as actual-to-potential for both Regulation XIII and Federal NSR
  - Actual pre-modification emissions for new sources are zero
- For modifications to existing sources that have never undergone NSR, SCAQMD uses an actual-to-potential test pursuant to Rule 1306(d)(2)(B)
  - Note: look back period is 2 years prior to submittal (more stringent)
- Under EPA's NSR reform, existing sources may still use the actual-to-potential test, therefore SCAQMD may continue using the actual-to-potential test for pre-NSR sources

Regulation XIII Equivalency Discussion

- In EPA's 2002 NSR Reform, EPA explained that states may meet the NSR requirements with different but equivalent regulations
- SCAQMD's potential-to-potential test is likely to be at least as stringent as the actual-to-future actual test because
  - Pre-modification actual emissions: Use of the highest 24 months in the last 10 years will equal the pre-modification PTE after accounting for pre-modification "underutilization"
  - Post-modification future actual emissions will:
    - Always be less than the PTE (which can be limited by federally enforceable permit conditions); and
    - Be lower than the PTE because future actual emissions can exclude demand growth

NSR Reform Compared to Regulation XIII



- Actuals + Demand Growth/Underutilization ≤ PTE
- Pre-modification actuals (highest 24 month average over 10 years) accounts for demand growth/underutilization

Scenario 1 – PTE Pre- and Post- Modification are the Same, Actuals 80% PTE, with Demand Growth

Post-modification PTE	100 tpy
Current PTE	100 tpy
Projected Future Actuals w/Demand Growth	100 tpy
Demand Growth	20 tpy
Past Actuals	80 tpy

- Assumes actuals are 80% of PTE
- Assumes future actuals include demand growth
- Demand growth of 20 tpy

- Potential-to-Potential Test
  - 100 tpy – 100 tpy = 0 tpy
- Actual-to-Projected Actual Test
  - (100 tpy future actuals – 20 tpy demand growth) – (80 tpy past actuals) = 0 tpy

Scenario 2 – Increase in Post-Modification PTE with No Demand Growth

Post-modification PTE	140 tpy
Current PTE	100 tpy
Projected Future Actuals w/Demand Growth	112 tpy
Demand Growth	0 tpy
Past Actuals	80 tpy

- Assumes actuals are 80% of PTE
- Assumes no demand growth exclusion

- Potential-to-Potential Test
  - 140 tpy – 100 tpy = 40 tpy increase
- Actual-to-Projected Actual Test
  - (112 tpy future actuals) – (80 tpy past actuals) = 32 tpy increase
- Potential-to-Potential Test is more stringent

Scenario 3 – Increase in Post-Modification PTE, Projected Actual Same as PTE, with Demand Growth

Post-modification PTE	140 tpy
Current PTE	100 tpy
Projected Future Actuals w/Demand Growth	140 tpy
Demand Growth Amount that can be excluded	28 tpy 20 tpy
Past Actuals	80 tpy

- Assumes actuals are 80% of PTE
- Assumes future actuals include demand growth
- Demand growth of 28 tpy, but the maximum that can be excluded is 20 tpy
  - (Past actuals + Excludable demand growth) ≤ past PTE

- Potential-to-Potential Test
  - 140 tpy – 100 tpy = 40 tpy increase
- Actual-to-Projected Actual Test
  - (140 tpy future actuals – 20 tpy demand growth) – (80 tpy past actuals) = 40 tpy increase
- Potential-to-Potential Test is the same

Scenario 4 – Increase in Post-Modification PTE, Projected Actuals lower than PTE, with Demand Growth

Post-modification PTE	140 tpy
Current PTE	100 tpy
Projected Future Actuals w/Demand Growth	132 tpy
Demand Growth Amount that can be excluded	28 tpy 20 tpy
Past Actuals	80 tpy

- Assumes actuals are 80% of PTE
- Assumes future actuals include demand growth
- Demand Growth of 28 tpy, but the maximum that can be excluded is 20 tpy
  - Past actuals + Excludable demand growth ≤ past PTE

- Potential-to-Potential Test
  - 140 tpy – 100 tpy = 40 tpy increase
- Actual-to-Projected Actual Test
  - (132 tpy future actuals – 20 tpy demand growth) – (80 tpy past actuals) = 32 tpy increase
- Potential-to-Potential test is more stringent

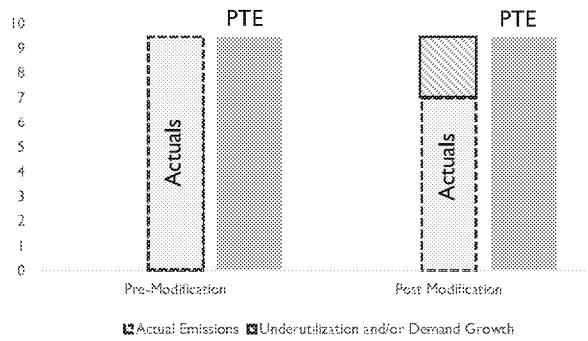
Scenario 5 – Increase in Capacity and Increase in Utilization (70% to 80%)

Post-modification PTE	140 tpy
Current PTE	100 tpy
Projected Future Actuals	112 tpy
Demand Growth	0 tpy
Increased Utilization	30 or 14 tpy
Past Actuals	70 tpy

- Assumes future actuals are 80% of PTE
- Assumes past actuals are 70% of PTE
- No demand growth
- Increased utilization can be excluded if could be accommodated before change

- Potential-to-Potential Test
  - 140 tpy – 100 tpy = 40 tpy increase
- Actual-to-Projected Actual Test
  - Case A: Increased utilization of 30 tpy
    - 100 tpy – 70 tpy = 30 tpy
    - (112 tpy future actuals – 30 tpy increased utilization) – 70 tpy past actuals = 12 tpy increase
  - Case B: Increased utilization of 14 tpy
    - 140 tpy x (80% - 70%) = 14 tpy
    - (112 tpy future actuals - 14 tpy increased utilization) – (70 tpy past actuals) = 28 tpy increase; or
- Potential-to-potential test is more stringent for both cases
- Should the increase in utilization excluded be 30 tpy or 14 tpy?

NSR Reform Compared to Regulation XIII



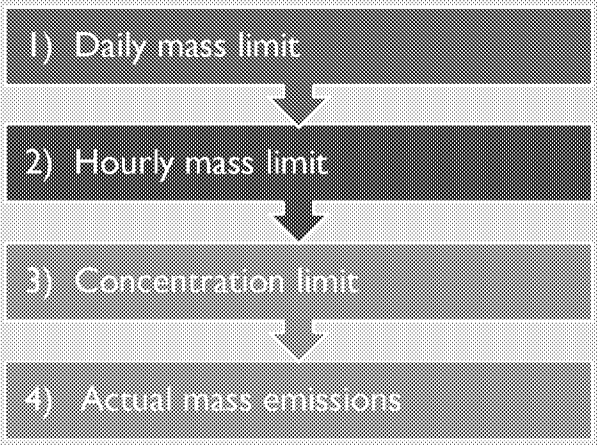
- How is growth/underutilization exclusion
  - Defined?
  - Enforced?

Converting RECLAIM Permits into lbs/day

- Regulation XIII calculates emission increases with PTEs in lbs/day
- Not all sources that exit RECLAIM have pre-modification PTEs in lbs/day
- To apply Regulation XIII when the modification is permitted, pre-modification PTEs need to be in lbs/day
  - There are different permit conditions that do not directly translate into lbs/day
  - Methodology needed to convert PTEs depends on when the permit was issued

Calculating PTEs Overview

- Hierarchy of methodologies will be used to calculate pre-modification PTE in lbs/day
  - Depends on the existing permit limit
- Pre-NSR equipment based on existing Regulation XIII approach (2-year average of actual emissions)



110(L) AND OVERARCHING PROGRAM DEMONSTRATION

NSR – Key Issues

Key Issue #1 For new sources that are permitted in RECLAIM, what are the offset obligations as facilities transition out of RECLAIM?

OFFSETTING REQUIREMENTS

Key Issue #2 When and how pre-modification potential to emit (PTE) is calculated to determine if an emission increase occurs that triggers NSR after facilities transition out of RECLAIM?

PERMITTING

Key Issue #3 How will the SCAQMD ensure that sufficient offsets are available to satisfy NSR requirements?

OFFSET AVAILABILITY

Background

- Federal CAA 110(l) states:
  - "…The Administrator shall not approve a revision of a plan if the revision would interfere with any applicable requirement concerning attainment and reasonable further progress…or any other applicable requirement of this chapter."
- CA Senate Bill 288 requires:
  - "No air quality management district or air pollution control district may amend or revise its new source review rules or regulations to be less stringent than those that existed on December 30, 2002."
- Rule 2005 establishes NSR requirements for RECLAIM facilities, such as RTC holding requirements for new or modified sources that were permitted during RECLAIM
- Need to ensure compliance with SB 288 and CAA 110(l) requirements for these sources as they transition out of RECLAIM

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Framing Key Issue #1

- Two main questions as facilities transition out of RECLAIM:
  - **Question 1:** Do ongoing Rule 2005 holding requirements need to be retained?
  - **Question 2:** Should ongoing Rule 2005 holding requirements be done programmatically or individually by facility?

Question 1: Do ongoing Rule 2005 holding requirements need to be retained?

- **Response:** Yes, only for certain facilities that were permitted during RECLAIM
  - New facilities that entered RECLAIM are required to hold RTCs to offset the total facility emissions at the commencement of each compliance year
  - Existing facilities that increase their emissions to a level greater than their initial allocation plus non-tradable credits, are also required to hold RTCs to offset the annual increase at the commencement of each compliance year
    - Note: Required hold only needs to be retained for reconciling actual emissions at end of year

Response to Question 1 (*Continued*)

- **Response: (*Continued*)**
  - RECLAIM facilities that existed prior to RECLAIM with new or modified sources permitted during RECLAIM do not have an ongoing commitment
    - Pursuant to Rule 2005, existing facilities with new or modified sources permitted during RECLAIM are only required to hold RTCs to offset emission increases from the source for the first compliance year
    - Compliance with state law (SB 288) - demonstration of initial holding requirements for existing facilities with new or modified sources permitted during RECLAIM has been satisfied and no further demonstration is needed
    - Rule 2004 requires all facilities to have sufficient RTCs for reconciliation of actual emissions – this is not an NSR requirement and will not be an ongoing obligation after RECLAIM

Question 2: Should ongoing Rule 2005 holding requirements be done programmatically or individually by facility?

- **Response:** Future holding requirement should be demonstrated programmatically
  - RTC allocations are sufficient to cover the ongoing holding requirement for new facilities that entered RECLAIM
  - Tracking actual emissions to ensure equivalency and SIP commitments
    - Can incorporate backstop provisions

Concept for Programmatic Equivalency Demonstration

- Concept for programmatic demonstration
  - Establish threshold – possibly 14.5 tons per day (2022+ Allocation)
  - Beginning January 2025 and every year thereafter, demonstrate
    - Previous years actual emissions of RECLAIM universe < 14.5 tons per day
  - January 2024 will be first year after AB617 BARCT implementation deadline
  - Incorporate backstop measures if 14.5 tons per day is exceeded

OFFSET BANK FOR NOX/SOX SOURCES POST RECLAIM

NSR – Key Issues

Key Issue #1 For new sources that are permitted in RECLAIM, what are the offset obligations as facilities transition out of RECLAIM?

OFFSETTING REQUIREMENTS

Key Issue #2 When and how pre-modification potential to emit (PTE) is calculated to determine if an emission increase occurs that triggers NSR after facilities transition out of RECLAIM?

PERMITTING

Key Issue #3 How will the SCAQMD ensure that sufficient offsets are available to satisfy NSR requirements?

OFFSET AVAILABILITY

Framing Key Issue #3

- Under Regulation XIII, if facilities transition out of RECLAIM the only source of offsets is the open market
- Two main questions:
  - **Question 1:** Can the open market support facilities that transition out of RECLAIM?
  - **Question 2:** If there are not sufficient offsets in the open market, what are possible options?

Question 1: Can the open market support facilities that transition out of RECLAIM?

- Staff Response: The open market cannot support the estimated demand from RECLAIM facilities for future NSR events

Insufficient ERCs

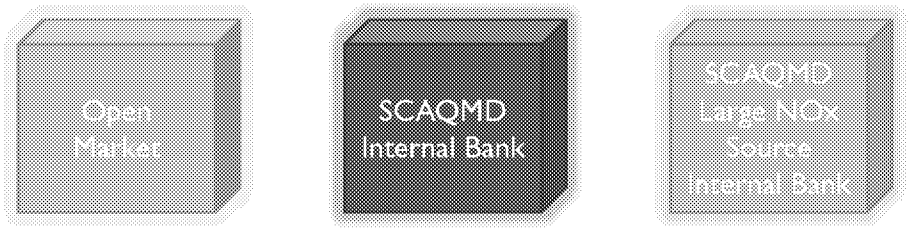
• ERCs in the open market are not sufficient to satisfy the RECLAIM demand
  • ~800 lbs/day of NOx ERCs currently in the open market
  • Offsetting demand for new or modified sources in RECLAIM during the 5 year period from 2011–2015:
  • Average annual: ~1,000 lbs/day
  • Maximum annual: ~ 2,500 lbs/day
• Average RECLAIM demand (1 year) > Total ERCs in open market
  • Supply of ERCs in the open market could be consumed in one year

Limited availability

• Not all ERCs in the open market are available for sale
  • Facilities may want to hold on to ERCs for future business growth
• Availability is further limited by the small universe of ERC holders
  • ERCs are owned by a total of 21 facilities
  • 6 facilities hold 90% of ERCs
• Limited trading would make it difficult for RECLAIM facilities to obtain ERCs

Question 2: If there are not sufficient offsets in the open market, what are possible options?

- Former RECLAIM facilities would be allowed to use ERCs in the open market
- However, additional source of offsets is needed to support the anticipated demand as facilities transition out of RECLAIM
- Possible sources of offsets for former RECLAIM facilities:



SCAQMD Internal Bank

- SCAQMD's internal bank provides offsets for
  - Rule 1309.1 facilities (i.e. essential public services) through the Priority Reserve
  - Rule 1304 facilities exempt from offsetting (i.e. NOx PTE less than 4 tons per year)*
- Offsets in the internal bank generated mostly from orphan shutdowns
  - Emission reductions from sources that shutdown but did not apply for emission reduction credits (ERCs)
- SCAQMD internal bank currently has >40,000 lbs/day of NOx offsets
  - Tracked offsets are SIP approved
- Sufficient NOx offsets in the internal bank to "seed" Large NOx Source Internal Bank

* Exemption applies to the District's offsetting requirement only

Concept for Large NOx Source Internal Bank

- Establish a Large NOx Source Internal Bank for all former RECLAIM facilities and other facilities with a NOx PTE greater than 4 tons/year
- Provides assurance of a sufficient supply of offsets for facilities relying on Rule 1309.1 and Rule 1304 provisions
- Establish new thresholds (CEQA) – would be specific to sources accessing the bank
- Tracking would be implemented under a separate rule
- Use same methodology as Rule 1315 for equivalency demonstrations and calculations for credits and debits

Concept for Large NOx Source Internal Bank *(Continued)*

Seeding the Large NOx Source Internal Bank

- Utilize offsets from SCAQMD Internal Bank or possible RTC conversion to ERCs
- Need to determine the amount of offsets required to seed the bank and analyze the sustainability of both banks

Offset Generation

- Emission reductions generated from sources that obtained offsets from the Large NOx Source Internal Bank bank would go back to this bank

Access

- All former RECLAIM would have access, including small former RECLAIM emitters (NOx PTE less than 4 tons/year)
- Access would also be given to all other sources that are not eligible to use the existing internal bank per Rules 1304 and 1309.1 (these facilities would have been in RECLAIM had the program continued)

Fees

- All facilities would pay fees to obtain offsets
- Reduced fee for facilities that provide offsets to Large NOx Source Internal Bank
- Need to establish fee schedule

SIP Approved Offsets

- Current offsets in SCAQMD internal bank are SIP approved
- Credit generation and tracking according to EPA approved system
- Programmatically offsets meet federal criteria:
  - Real
  - Permanent
  - Enforceable
  - Quantifiable
  - Surplus (discounted annually to BARCT)

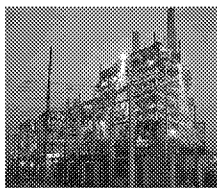
SCAQMD Recommendation for Large Source Internal Bank

- Offsets for Large NOx Source Internal Bank
  - Would be initially funded by using offsets in the current internal bank
    - Existing bank is maintained under Rule 1315
  - Tracking would be implemented under a separate rule
    - Use same methodology as Rule 1315 (evaluate new thresholds)
- Recommendation by EPA to examine individual offsets for the new bank
  - Similar to what was done for the Sentinel project
- District staff disagrees and proposes to use the same methodology under Rule 1315
  - The Sentinel offsets were approved under a separate process
  - Methodology for ensuring federal integrity requirements has already been approved by EPA
    - Annual Federal NSR Equivalency Determination Report assures appropriate offsets and offset ratios are satisfied
    - Ensures offsets remain surplus at the time of use
    - Rule 1315 provides an adequate system that demonstrates equivalency with CAA requirements, while also ensuring that credits and debits in its offset accounts also meet CAA requirements

RACT – POST RECLAIM LANDING RULES

Command-and-Control BARCT Rules Adopted and Amended for RECLAIM Transition

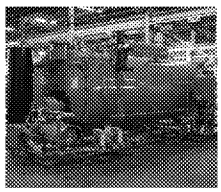
Rule 1135



Electricity Generating Facilities

- Amendments adopted Nov. 2018

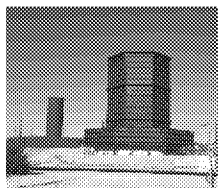
Rules 1146, 1146.1 and 1146.2



Boilers, steam generators, and heaters

- Amendments adopted Dec. 2018

Rule 1118.1

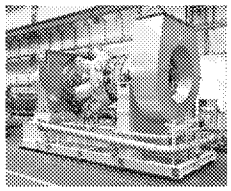


Non-Refinery Flares

- Adopted Dec. 2018

Command-and-Control BARCT Rulemaking

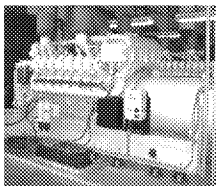
PAR 1134



Gas Turbines

- Public Workshop November 2018
- Stationary Source Committee Meeting February 15, 2019
- Public Hearing: April 2019

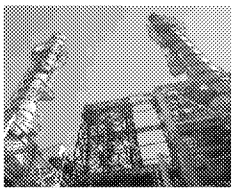
PAR 1110.2



Gaseous- and Liquid-Fueled Engines

- Ongoing site visits
- Sent survey questionnaire
- Public Workshop: 2nd Quarter 2019
- Public Hearing: Sept. 2019

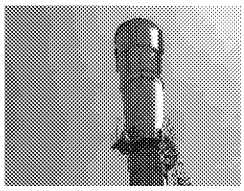
PR 1109.1



Refineries

- Reviewing three proposals for third party verification
  - Contractor selection April Board Meeting
- Working Group Meeting #6 Jan. 31, 2019
- Public Hearing: Oct. 2019

PAR 218 & 218.1

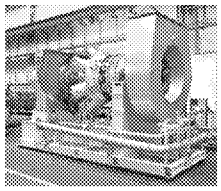


Monitoring, Reporting, and Recordkeeping (MRR)

- Integrated MRR requirements
  - Former RECLAIM
  - Possibly non-RECLAIM
- Initiated preliminary analysis
- Conducted five site visits
- Public Hearing: Oct. 2019

Command-and-Control BARCT Rulemaking Status

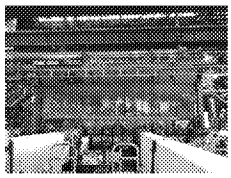
PAR 1147



Miscellaneous Combustion Sources

- 1st Working Group February 2019
- Public Hearing: Sept. 2019

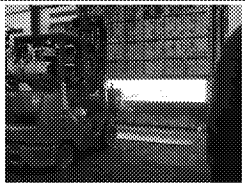
PR 1147.1



Large Miscellaneous Combustion Sources

- 1st Working Group February 2019
- Public Hearing: Sept. 2019

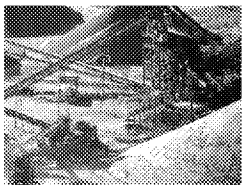
PR 1147.2



Metal Melting Facilities

- 1st Working Group April 2019
- Public Hearing: Nov. 2019

PR 1147.3

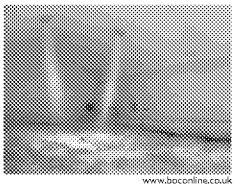


Aggregate Facilities

- 1st Working Group April 2019
- Public Hearing: Dec. 2019

Command-and-Control BARCT Rulemaking Status

PR 1117

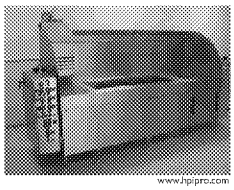


www.boconline.co.uk

Glass Melting

- Public Hearing: Dec. 2019

PR 1159.1



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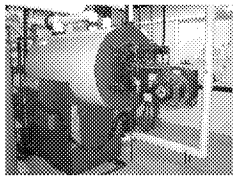
Nitric Acid Units

- Public Hearing: TBD

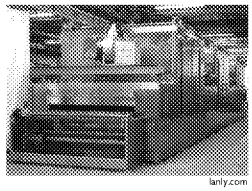
PAR 1146.2



Large Water Heaters and Small Boilers and Process Heaters

- Subsequent Amendments
- Public Hearing: TBD

PAR 1153.1



lanly.com

Commercial Food Ovens

- Public Hearing: TBD

SIP Enforceability Question in BARCT Rules

- Recent BARCT rules refer to existing limits in permits
  - For example, Rule 1135 (g)(1)(B): NOx and ammonia limits specified on the SCAQMD permit as of November 2, 2018
- Reference to limits in existing permits is to ensure that no backsliding occurs when a RACT limit has been shown not to be cost-effective
  - RACT cost-effectiveness determination made in associated staff report
- Question has been raised as to how such a permit reference is enforceable

Proposed Resolution to SIP Enforceability

- When referencing permit limits, a "not to exceed" limit will also be included
- For example, Rule 1135 (g)(1)(B): NOx and ammonia limits specified on the SCAQMD permit as of November 2, 2018, not to exceed 10 ppmv NOx at 15% oxygen and 5 ppmv ammonia at 15% oxygen
- This would allow U.S. EPA or a citizen to enforce the "not to exceed" limit without having to reference a permit
- Permit requirements are also publically available if the actual limits on the SCAQMD permit are to be enforced

THANK YOU!